

EASTBOURNE TO THE MOUTH OF GOLLAN'S VALLEY.

In the opinion of the six who took part in the excursion of March 3rd, the success of the trip was qualified only by the fact that the day was not long enough. It is rather a long walk, but in the sunny autumn weather the going was dry all the way, even when we pushed through waist high *Carex virgata* that usually has its feet in really wet mud. From the flanking hillocks we got wide views of the stream fringed with raupo or flax, or further down with wide breadths of flowering toetoe. The billy was boiled for lunch in one of the sheltered side valleys, under a grove of karakas. Outside lianes were a feature here, great woody loops of *Tetrapathaea tetrandra* with a circumference of 20 inches measured. Has any member a bigger record for the native passion vine, or any other liane?

The valley becomes more and more interesting in its lower reaches, but the great attraction is of course the lake at the bottom. It is possible to walk round the eastern shore to the big shingle bank that cuts it off from the open coast, but our time was up. All we could do was to admire the ducks and black swans, and the wide border of salt meadow plants. Amongst the *Leptocarpus*, *Apium filiforme* assumed an unusual almost lianoid habit. *Eryngium vesiculosum* was most striking, particularly well-grown, and making an effective pattern with its spiky leaves. It decorated the base of the knob of rock at the head of the lake, too, below the appressed *Hymenanthera crassifolia* and curtains and cushions of *Rhagodia nutans*. On the very top were wisps of deep sea algae that must have blown up the whole mile length of the lake. A sample of the lake water brought home had a specific gravity of 1.02 indicating a salinity of 3.4%, very little different from sea water.

L.B. Moore.

* * * * *

HYBRIDISM.

Dr. Newman's lecture on June 18th was too 'meaty' to be abstracted in full. The following outline, based on Dr. Newman's notes, will indicate the scope of the talk.

INTRODUCTION:

New Zealand botanists' interest in hybridity dates from 1870, when Buchanan first recorded the natural hybrid between our *Acacia sanguisorbæ* and the Australian *A. ovina*. Lhotsky's visit in 1925 and the researches of Cockayne and Allan are more recent landmarks.

There are three approaches to hybridism -- that of the taxonomist who wants to be able to describe a group so that any member can be identified and spoken of as a member of that group; that of the geneticist who sees a collection of characters which are shuffled and resorted in the process of inheritance, and some of which may be temporarily submerged only to reappear later; that of the philosopher who wants to know how the groups we call species came into being. All three are intrigued by hybridism.

THE PROBLEM:

There are three distinct concepts to be considered. The first is that the species is a varied group of individuals isolated by certain mechanisms, which may be geographical, climatic, structural or functional. The second idea is that the individual is a group of characters, as a group not necessarily identical with the groups representing other individuals of the same species; so that a species is an inclusive group of characters at least in pairs so that there are at least twice as many characters in the species group as in the individual group. The third concept is that of the hybrid swarm, a varied pattern of groups of characters newly presented to the action of isolating mechanisms for the production of species. This brings us to Lhotsky's idea of species as remains of very diverse swarms.

THE CYTOLOGICAL AND GENETICAL BACKGROUND:

When we speak of hybridism we are implying the fact of inheritance. No enquiry into hybridism can approach to understanding unless there is some background of appreciation of the simpler facts of the outward phenomena of inheritance and their inner basis in the mechanism of the cell.

The cellular structure of organisms was illustrated from a wall chart. The constancy of the chromosome number was explained by reference to a diagram showing the mechanism of cell division. Actual photographs showed stained chromosomes in Acacia baileyana pollen cells, and living chromosomes of Tradescantia being manipulated with micro-needles. The fusion of two nuclei, the central feature in sexual reproduction, was shown by photographs of Acacia baileyana, taken at different stages to illustrate how the sperm nucleus from the pollen grain approaches and gradually fuses with the egg nucleus. The fusion nucleus has twice as many chromosomes as either of the participating nuclei. To maintain the constant chromosome number for the species there must be a compensating halving at some stage. The mechanism of reduction division or meiosis was explained from a diagram.

The study of genetics has advanced principally through the consideration of isolated pairs of characters. Mendel's classical experiments were quoted, and some aspects of segregation and dominance were discussed.

.....

JAMES DALL.

The name of Dall is preserved for all time in the specially fine species of Pittosporum and Celmisia which have been named after him; but few botanists seem to know much about Dall himself. When I visited Collingwood recently, I met some people who had known him well, and who were able to give me an interesting account of his life in that district; my chief informant was Mrs. W. J. Jamieson of Collingwood.

Dall was born in Yorkshire on November 25th, 1840. In his early teens he went to sea and had a very hard time, as other lads did in those days. After many years at sea he landed at Nelson. His interest in natural history finally led him to Collingwood and he settled at Rockville more than sixty years ago. There at Dall's Creek he had a nursery garden and made a living as a botanical collector. He sent New Zealand plants and especially ferns to gardens all over the world. Also, as a minor interest, he did a bit of taxidermy and had a collection of birds, some of them caught by two dogs that he had trained.

He is remembered as a very kindly old man with a long beard, who rode about on a white horse called Hatter. He used to go away into the back country with his animals, but also packed enormous swags himself.

Twice between 1880 and 1890 he went to Melbourne Exhibitions and he won a Gold Medal for his exhibit of Wardian cases of New Zealand ferns. On each occasion he remembered to send back toys to the village children whom he had persuaded to clean seeds for him.

His trade in growing and selling ferns belongs to that period when no drawing room was complete without its Wardian case of ferns. There is much that went out of fashion at the end of last century that we do not regret, but the growing of ferns to grace our rooms is a practice that botanists might well revive.

Dall explored the rough back country around Collingwood very thoroughly. He is known to have kept diaries but they were burned. It is a matter for regret that there is so little known about Dall's collecting because he must have had a very good knowledge of the plants of a particularly interesting district.

James Dall told people that his name should be pronounced to rhyme with ball. Will people who call Dahlias "Dallias" be persuaded to pronounce Pittosporum dallii as Mr. Dall would have expected?

Greta B. Cone.

.....

EARLY KOWHAI.

Mrs. Mason reports that she noticed kowhai blooming at Faremata on 11th June. One overhanging the footpath in Bolton St. is usually among the first and in 1942 had a flower by July 8th. This year at the end of June it still has all its leaves and only tiny flower buds. Any more records please?

.....